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LIN HSU-HUI(54) COMPOSITION FOR SURFACE TREATMENT OF PIGMENT AND METHOD FOR THE
TREATMENT

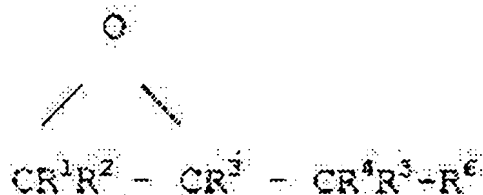
(57)Abstract:

PROBLEM TO BE SOLVED: To provide a surface-treated pigment composition, surface-treated pigment dispersion and a method for surface-treating pigment particles.

SOLUTION: This pigment composition contains pigment particles and an epoxy compound for surface-treating the pigment particles, and the pigment particles are treated with the epoxy compound expressed by the formula [wherein, R1 to R5 are each H or an alkyl; R6 is

H, OOCR7, OR8, OCCR9=CR10R11, diphenyl, phenyl, a monoepoxy or polyepoxy group containing an alkyl or a cycloalkyl, or a monoepoxy or polyepoxy group containing a polyether group; R7, R8, R10 and R11 are each H, an alkyl, a cycloalkyl, an aryl or an alkenyl; R9 is

H or an alkyl; and provided that the epoxy compound does not have a silicon-containing group].



LEGAL STATUS

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rejection]

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2. **** shows the word which can not be translated.
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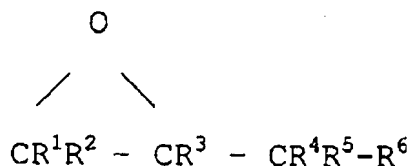
CLAIMS

[Claim(s)]

[Claim 1]

It is a pigment constituent containing the epoxy compound for carrying out surface treatment of a pigment particle and this pigment particle, and this epoxy compound is a general formula. :

[Formula 1]



the inside of [type, and R1, R2, R3, R4 and R5 -- respectively -- independently -- hydrogen, a permutation, or unsubstituted alkyl -- it is -- R2 and R4 -- together -- becoming -- 5 - 7 membered-ring -- forming -- obtaining -- and [or]

R6 is the mono-epoxy or the Pori epoxy group containing mono-epoxy or Pori epoxy group; or the polyether radical containing hydrogen, -OOCR7, -OR8, -OOC-CR9=CR10R11; diphenyl, phenyl, a permutation, unsubstituted alkyl, or cycloalkyl,

R7, R8, R10, and R11 are hydrogen, a permutation or unsubstituted alkyl, a permutation or unsubstituted cycloalkyl, a permutation, unsubstituted aryl, a permutation, or the unsubstituted alkenyl independently, respectively,

R9 is hydrogen or alkyl,

However, this epoxy compound is] which does not have a silicon content radical.

The pigment constituent which ****.

[Claim 2]

The pigment constituent according to claim 1 with which said epoxy compound has less than 1000 weight-per-epoxy-equivalent weight (epoxy equivalent weight).

[Claim 3]

The pigment constituent according to claim 1 chosen from the group which said epoxy compound becomes from glycidylethers, glycidyl ester, an alicyclic epoxy compound, and an alicyclic diepoxy compound.

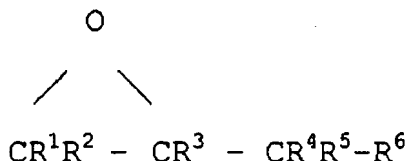
[Claim 4]

The pigment constituent according to claim 1 chosen from the group which said epoxy compound becomes from glycidyl methacrylate and glycidyl acrylate.

[Claim 5]

It is the pigment dispersion containing the pigment particle distributed in the dispersant and this dispersant, and this pigment particle is a general formula. :

[Formula 2]



the inside of [type, and R1, R2, R3, R4 and R5 -- respectively -- independently -- hydrogen, a permutation, or unsubstituted alkyl -- it is -- R2 and R4 -- together -- becoming -- 5 - 7 membered-ring -- forming -- obtaining -- and [or]

R6 is the mono-epoxy or the Pori epoxy group containing mono-epoxy or Pori epoxy group; or the polyether radical containing hydrogen, -OOCR7, -OR8, -OOC-CR9=CR10R11; diphenyl, phenyl, a permutation, unsubstituted alkyl, or cycloalkyl,

R7, R8, R10, and R11 are hydrogen, a permutation or unsubstituted alkyl, a permutation, unsubstituted aryl, a permutation, or the unsubstituted alkenyl independently, respectively,

R9 is hydrogen or alkyl,

However, this epoxy compound is] which does not have a silicon content radical.

Pigment dispersion currently processed with the epoxy compound which ****.

[Claim 6]

Pigment dispersion according to claim 5 in which said epoxy compound has less than 1000 weight-per-epoxy-equivalent weight.

[Claim 7]

Pigment dispersion according to claim 5 chosen from the group which said epoxy compound becomes from glycidylethers, glycidyl ester, an alicyclic epoxy compound, and an alicyclic diepoxy compound.

[Claim 8]

Pigment dispersion according to claim 5 chosen from the group which said epoxy compound becomes from glycidyl methacrylate and glycidyl acrylate.

[Claim 9]

It is the approach of carrying out surface treatment of the pigment particle,

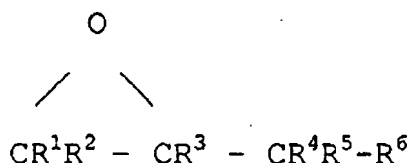
This pigment particle and an epoxy compound are mixed under existence of a solvent, and a slurry is formed.; it reaches.

This pigment particle is made to react with this epoxy compound at an elevated temperature (elevated temperature),

It includes,

Here, this epoxy compound is a general formula. :

[Formula 3]



the inside of [type, and R1, R2, R3, R4 and R5 -- respectively -- independently -- hydrogen, a permutation, or unsubstituted alkyl -- it is -- R2 and R4 -- together -- becoming -- 5 - 7 membered-ring -- forming -- obtaining -- and [or]

R6 is the mono-epoxy or the Pori epoxy group containing mono-epoxy or Pori epoxy group; or the polyether radical containing hydrogen, -OOCR7, -OR8, -OOC-CR9=CR10R11; diphenyl, phenyl, a permutation, unsubstituted alkyl, or cycloalkyl,

R7, R8, R10, and R11 are hydrogen, a permutation or unsubstituted alkyl, a permutation, unsubstituted aryl, a permutation, or the unsubstituted alkenyl independently, respectively,

R9 is hydrogen or alkyl,

However, this epoxy compound is] which does not have a silicon content radical.

How to ****.

[Claim 10]

The approach according to claim 9 said epoxy compound has less than 1000 weight-per-epoxy-equivalent weight.

[Claim 11]

The approach according to claim 9 chosen from the group which said epoxy compound becomes from glycidylethers, glycidyl ester, an alicyclic epoxy compound, and an alicyclic diepoxy compound.

[Claim 12]

The approach according to claim 9 chosen from the group which said epoxy compound becomes from glycidyl methacrylate and glycidyl acrylate.

[Claim 13]

The approach according to claim 9 of removing said solvent and including further the process which dries said pigment particle processed with said epoxy compound.

[Translation done.]